



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,255	05/04/2006	Nigel Stephen Workman	127927	6680
25944	7590	11/29/2007		
OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850			EXAMINER BASHAW, HEIDI M	
			ART UNIT 3732	PAPER NUMBER
			MAIL DATE 11/29/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/578,255	<b>Applicant(s)</b> WORKMAN ET AL.	
	<b>Examiner</b> Heidi M. Bashaw	<b>Art Unit</b> 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/04/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. A preliminary examination of this application reveals that it includes terminology which is so different from that which is generally accepted in the art to which this invention pertains that a proper search of the prior art cannot be made. For example: pontic.

Applicant is required to provide a clarification of these matters or correlation with art-accepted terminology so that a proper comparison with the prior art can be made. Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7 and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In line 4 of claim 1 applicant claims "the preparation comprises a first anchor and a connecting portion." It is unclear if this connecting portion is different from the first connecting portion claimed or the same one.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Heitlinger et al. 4,324,546 (Heitlinger).
3. Re claim 1, Heitlinger discloses a method of determining the shape of a dental prosthesis comprising the steps of scanning at least one connection portion of a preparation wherein the preparation comprises a first anchor and the connection portion connected thereto, forming a physical model on the connecting portion to produce a pontic and scanning at least the pontic whereby the surface of the first anchor is also scanned during a scanning step (col. 8, ll. 25-36, col. 7, ll. 1-5).
4. Re claim 2, Heitlinger discloses the method of determining the shape of a dental prosthesis wherein during a scanning step the preparation is scanned to provided data concerning relative location of the first anchor and connecting portion (col. 6, ll. 53-58).
5. Re claim 3, Heitlinger discloses the method of determining the shape of a dental prosthesis wherein data concerning the relative locations is used to align data obtained during the scanning steps (col. 8, ll. 34-36).
6. Re claim 4, Heitlinger discloses a method of determining the shape of a dental prosthesis wherein, in addition to producing a physical model of a pontic, connectors which connect the pontic to the first anchor are also produced as illustrated in fig. 6 and wherein the connectors are scanned (col. 7, ll. 60-62).
7. Re claim 11, Heitlinger discloses a dental prosthesis produced according to claim 1 (col. 8, ll. 25-36).

8. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Guiot et al. 6,287,121. (Guiot).

9. Re claim 8, Guiot discloses a method of producing a model of a dental prosthesis comprising the steps of scanning a preparation having different features to provide data concerning the relative location of the different features within the preparation wherein the different features include a fist anchor and a connecting portion, dividing a preparation into the different features (col. 3, ll. 23-25), individually scanning the different features of the preparation and producing a model of a dental prosthesis by aligning data from the individual scans using the data concerning relative location of the different features within the preparation (col. 3, ll. 60-66).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heitlinger et al. 4,324,546 (Heitlinger).

12. Re claim 5, Heitlinger does not specifically teach the method of determining the shape of a dental prosthesis wherein connectors which connect the pontic to the first anchor are created by applying mathematical rules to data collected during the scanning processes, however, Heitlinger does teach being able to enlarge the connectors during

preparation (col. 7, ll. 60-64), therefore the connectors are created by applying mathematical rules to data collected during the scanning processes.

13. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heitlinger et al. 4,324,546 (Heitlinger) in view of Van der Zel 6,495,072.

14. Re claim 6, Heitlinger does not teach the method of determining the shape of a dental prosthesis wherein data produced when the first anchor is scanned is used to calculate an offset

15. Van der Zel teaches taking into account a thin layer of adhesive (col. 5, ll. 29-30) on the inner surface of the restoration which would produce an offset.

16. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Heitlinger in view of Van der Zel in order to be able to connect the restoration to the tooth stump as taught by Van der Zel (col. 5, ll. 27-30).

17. Re claim 7, Heitlinger does not teach the method of determining the shape of a dental prosthesis wherein data produced when the connecting portion is scanned is used to calculate an offset.

18. Van der Zel teaches taking into account a thin layer of adhesive (col. 5, ll. 29-30) on the inner surface of the restoration which would produce an offset.

19. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Heitlinger in view of Van der Zel in order to be able to connect the restoration to the tooth stump as taught by Van der Zel (col. 5, ll. 27-30).

20. Re claim 9, Heitlinger teaches determining the shape of a dental prosthesis according to claim 1.

21. Heitlinger does not teach producing the shape of the dental prosthesis from a ceramic former.

22. Van der Zel teaches producing the shape of the dental prosthesis from a ceramic former (col. 5, ll. 66-67, col. 6, ll. 1-4).

23. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Heitlinger in view of Van der Zel since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice (In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960) MPEP 2144.07).

24. Re claim 10, Heitlinger does not teach a method of manufacturing a dental prosthesis wherein the dental prosthesis is coated with porcelain

25. Van der Zel teaches a method of manufacturing a dental prosthesis wherein the dental prosthesis is coated with porcelain (col. 4, ll. 21-22).

26. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Heitlinger in view of Van der Zel since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice (In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960) MPEP 2144.07).

### ***Conclusion***

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Luthardt et al. 7,162,321 and Wohlwend 6,106,747.

Application/Control Number:  
10/578,255  
Art Unit: 3732

Page 7

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heidi M. Bashaw whose telephone number is 571-270-3081. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on 571-272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/John J Wilson/  
Primary Examiner  
Art Unit 3732**

*Heidi Bashaw*  
HMB  
11/24/2007